water cell which would absorb but a very small fraction of the power of the sun's rays. In fact, a comparison of the transmission curves of water and of glass and of the radiation curves of bodies of the sun's temperature and those of incandescent filament temperatures show that water is almost as good a transmitting medium for the sun's radiation as is glass for the radiation of an incandescent filament.

The effect here being commented upon is in no sense a new one though we have seen no direct statement of the marked difference in behavior of glass and water to solar and incandescent lamp radiation. This subject is one, however, which might well receive some attention, even in elementary physics courses.

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A POSSIBLE SOURCE OF LABORATORY FIRES

THE article by Julian H. Lewis under the above title in No. 2217 of SCIENCE reminds me of my own experience. Many years ago I was engaged in study of numerous petrographical slides and very often worked evenings by the artificial light of a kerosene lamp. With the purpose of whitening that light I used a glass ball about six inches in diameter filled with ammoniacal solution of copper sulfate. During the daytime this ball was always removed to the sill of the window in front of which stood my table. One bright day when I was busy with my microscoping I noticed a thin spray of smoke rising from the sill. Investigating the matter, I found that this was not the first occurrence because all the front side of the table above the sill was covered with charred lines burned out by the sun rays passing through the ball referred to. The danger of fire was not great in this case, because the ball was close to the window and the sun burned out thin lines, not concentrating the heating on a limited surface. But, anyhow, after that discovery, in the daytime the ball was kept under the table, and thereafter I was very careful not to leave any kind of bottle near the windows where those bottles could be hit by the direct sunlight.

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SCIENTIFIC BOOKS

SOME RECENT BOOKS IN THE PLANT SCIENCES

Pollen Grains. By R. P. WODEHOUSE. xv + 574 pp. 123 figs. 14 plates. McGraw-Hill Book Company, New York. 1935. $6.00.

A CENTURY has passed since two great men of science, von Mohl and Fritsche, were each apparently so impressed by the other's study of pollen structure that both sought fresh fields of endeavor. It remained for Hugo Fischer, in 1890, to lay the foundation of modern comparative pollen morphology. And since his time the topic has lain largely dormant until stimulated by the current interest in allergy and pollen analysis.

The work under review is that of a master. It is the result of industry, skill and cerebration of an unusual order, and was carried to completion in the scant leisure of a busy industrial life. In the measured opinion of the reviewer, it represents one of the notable achievements of American botany. To the clinician and the micropaleobotanist it is an indispensable handbook; to the student of phylogeny and morphogenesis it opens up new opportunities.

The book is divided into two main sections: (1) a general portion dealing with history and practical procedures and ending with a discussion of structural characteristics; (2) a taxonomic portion in which is figured, described and compared representative pollen of all the orders of gymnosperms and some thirty families of angiosperms.

The historical section supplies information not familiar to many modern botanists and is all the more valuable because so many of the original sources are now difficult to obtain.

The practical discussion is first-hand stuff. The author's own professional work, of course, deals with hay-fever and other allergic problems whose relation to pollen he presents. He has also had direct experience with the subject of pollen microfossils in his study of the Green River shales and his pollen analyses of peat from the Himalayas; but the valuable chapter dealing with pollen analysis has been contributed by Gunnar Erdtman, of Stockholm. This chapter discusses the limitations of technique as well as its procedures and should be read by every worker in the difficult, involved field of North American pollen analysis.

Probably Wodehouse's greatest contribution is in the field of pollen geometry and is based upon the spatial relations inherent in the tetrad pattern—the trischizoclastic system, as he calls it. This is set forth in his discussion of structural characters at the end of Section I and is, of course, documented in detail in Section II, dealing with taxonomy.

In the latter section his underlying evolutionary idea is the primitive character of wind pollination, its subsequent modification into insect carriage and the reappearance of wind pollination in many entomophilous groups of flowering plants. This is quite in keeping with current phylogenetic thought. Noteworthy fea-